



# TCM-5311

**H.264 Megapixel IP D/N PoE CCD Box  
Camera**

**(DC 12V / PoE)**

**Ver. 2010/10/22**

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# 0. Precautions

## **Read these instructions**

You should read all the safety and operating instructions before using this product.

## **Heed all warnings**

You must adhere to all the warnings on the product and in the instruction manual. Failure to follow the safety instruction given may directly endanger people, cause damage to the system or to other equipment.

## **Servicing**

Do not attempt to service this video device yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

## **Trademarks**

All names used in this manual are probably registered trademarks of respective companies.

## **Liability**

Every reasonable care has been taken during the writing of this manual. Please inform your local office if you find any inaccuracies or omissions. We cannot be held responsible for any typographical or technical errors and reserve the right to make changes to the product and manuals without prior notice.

## **FCC/CE Regulation**

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the users will be required to correct the interference at their own expense.

# 1. Introduction

## Package Contents

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TCM-5311



Power Adaptor (Optional)



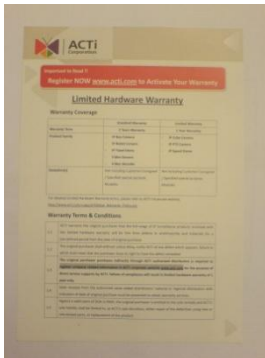
Product CD



Terminal Blocks for Power & DI/O



Warranty Card



Accessory



**\*For the mounting block, please attach it flat side to the front. There are two types of mounting blocks, and this device uses the black version. Please do not use the white version.**



## Features and Benefits

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This is a cutting-edge digital video surveillance camera. It can compress and transmit real time images with outstanding image quality (15 FPS @ SXGA, 1280 x 960) through a standard TCP/IP network. This camera is your best choice to build an intelligent IP surveillance system.

### **H.264/MPEG-4/MJPEG Triple Codec Dual Streaming**

This device supports 3 compression formats, H.264, MPEG-4 and MJPEG. It brings superior image quality at 15 frames per second up to a resolution of 1280 x 960 pixels, and offers up to 30 frames per second in SXGA (1280 x 720). In D1 resolution (720 x 480) the device reaches 30 frames per second.

### **DC Iris Control**

Using exposure control via DC Iris, this camera automatically adjusts incoming light levels to achieve the best video performance. Wildly fluctuating outdoor lighting condition is no longer an issue with your video quality.

### **Built-in Hardware Motion Detection**

No more external motion sensors are required. You may assign up to 3 video motion detection areas. By tuning the object size and sensitivity, it will reliably detect objects passing through is view. Hardware motion detection also offers better sensitivity and faster response time than software motion detection.

### **Powerful Bundled Surveillance Software**

To extend the capabilities of the IP Box Camera series, a powerful surveillance program is included in the package for free. Users can easily use an existing PC as a digital video recorder. Scheduled recording and manual recording keep every important video recorded in the local hard disk. Reliable and accurate motion detection with instant warning enables immediate response in every condition. Quick and simple search and playback function lets you easily find the images and video you want.

### **Software Development Kit Support**

This IP Box Camera can be integrated or controlled by applications from third party software developers. Software developers can save considerable efforts by using our Streaming Library or ActiveX control. Please contact us for details on integration support.

**Digital Time Code Embedded**

The “Digital Time Code Embedded” function records video time in the video stream. Therefore, each image frame is marked with its original recording time. It is very useful when users want to find the video at an exact time or between a certain time intervals.

## Safety Instructions

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### **Don't use the power supply with other voltages**

This device is likely to be damaged or damage other equipments / personnel, if you use a power supply with different voltage than the one included with this device. All warranty of this product will be voided in the situations above.

### **Don't open the housing of the product**

### **Cleaning**

Disconnect this video product from the power supply before cleaning.

### **Attachments**

Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

### **Water and Moisture**

Do not use this video product near water, for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool and the like.

### **Don't use accessories not recommended by the manufacturer**

Only install this device and the power supply in a dry place protected from weather

### **Servicing**

Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

### **Damage Requiring service**

Disconnect this video product from the power supply immediately and refer servicing to qualified service personnel under the following conditions.

- 1) When the power-supply cord or plug is damaged
- 2) If liquid has been spilled, or objects have fallen into the video product.
- 3) If the video product has been directly exposed to rain or water.
- 4) If the video product does not operate normally by following the operating Instructions in

this manual. Adjust only those controls that are covered by the instruction manual, as an improper adjustment of other controls may result in damage, and will often require extensive work by a qualified technician to restore the video product to its normal operation.

**Safety Check**

Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine if the video product is in proper operating condition.



# Physical description



## 1) DC Iris

DC Iris Lens Control Port

## 2) Ethernet Port

The IP device connects to the Ethernet via a standard RJ45 connector. Supporting NWAY, this IP device can auto detect the speed of local network segment (10Base-T/100Base-TX Ethernet).

## 3) Power Input

Connect the power adaptor here if your power input is DC12V.



If your power input is AC24V. Please follow the description on the connector to connect to power.



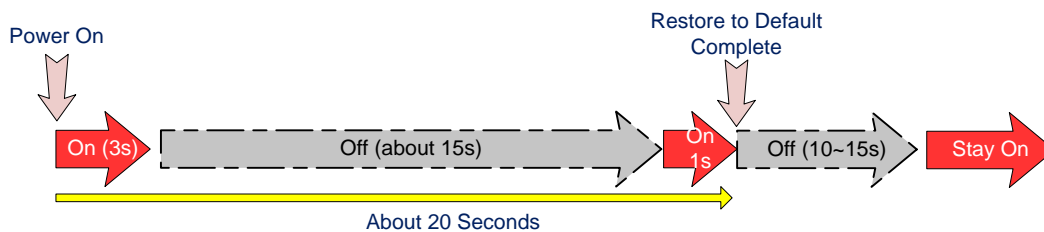
PIN	NAME	DESCRIPTION
1	N	AC Power Input
2	L	
3	GND	E-Ground of power

## 4) Reset Button

**Step 1:** Switch off IP device by disconnecting the power cable

**Step 2:** Press and continue to hold the Reset Button (with a sharp tipped object, like a pen.)

**Step 3: *Reconnect the power cable while continuing to hold the reset button.*** The red Power LED light will flash on for 3 second first, turn off for about 15 seconds, flash on for another second and turn off again. By this time the reset to default operation is already completed. ***This will take around 20 seconds from power up.*** You may then release the reset button. This length of time fluctuates slightly with the environment. The Power LED light will come back on and stay on after a few more seconds. The unit will start up with factory default settings automatically.



## 5) Audio Input / Output

The IP device supports audio input and output with earphone jack

## 6) Micro SD Card Slot\*

Insert your Micro SD card here for local recording on camera

\* Available only for device versions with enhancements

## 7) Digital Input / Output

Used in applications like motion detection, event triggering, time lapse recording, alarm notifications, etc., the I/O terminal connector provides the interface to:

- **1 transistor output** - For connecting external devices such as relays and LEDs. Connected devices can be activated by Output buttons on the Live View page or through video management software.

- **1 Digital Input** - An alarm input for connecting devices that can toggle between an open and closed circuit, for example: PIRs, door/window contacts, glass break detectors, etc. The device will detect the change in digital input and transmit the signal to video surveillance servers.

- Auxiliary power and GND

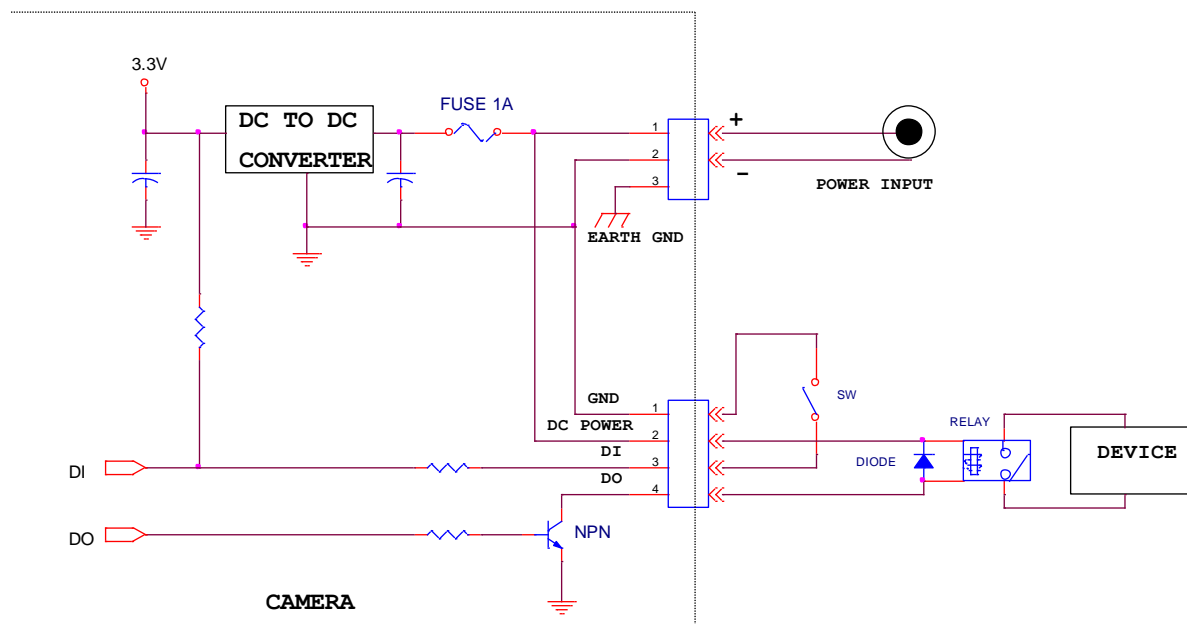
Pin 1	GND	Ground	
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Pin 2	Auxiliary DC Power input (not to power this camera)	Electrically connected in parallel with the connector for the power supply, this pin provides an auxiliary connector for mains power to the unit.  This pin can also be used to power auxiliary equipment, with a maximum current of 100mA.	Voltage: 12V DC, Max: 1.2W
Pin 3	Digital Input	Connect to GND to activate, or leave floating (or unconnected) to deactivate.	Must not be exposed to voltages greater than 30V DC.
Pin 4	Transistor Output	Uses an open-collector NPN transistor with the emitter connected to the GND pin. If used with an external relay, a diode must be connected in parallel with the load for protection against transient voltages.	Max load = <100mA Max voltage = 24V DC (to the transistor)

The I/O terminal pins are numbered right to left,.

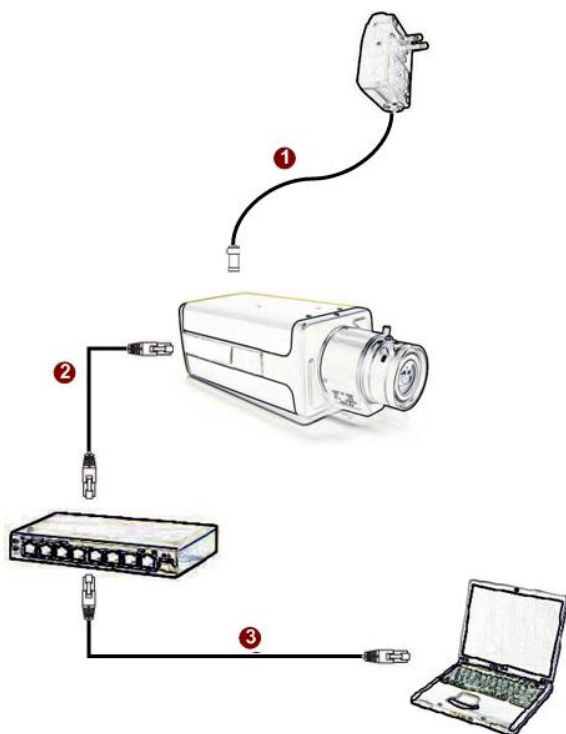
Connect input/output devices to the camera as follows:

1. Attach the cables for the device securely to the supplied green connector block.
2. Once the cables are connected, push the connector block into the terminal connector (also green) on the camera.



## Basic Connections

Follow the procedures below to connect the IP device to the respective apparatuses.



### **If you have a PoE(Power over Ethernet) supported switch or injector:**

- 1) Connect your IP Box Camera to the Switch / Injector by CAT5 or CAT6 cables with RJ45 connector.
- 2) Connect your Switch / Injector to PC with another CAT5 / CAT6 network cable.

### **If your switch does not support PoE, and you are powering the camera with power adaptor:**

- 1) Connect the power adaptor to IP Box Camera
  - 2) Connect IP device's Ethernet port to Network switch (via RJ45 connectors).
- Connect a PC to the Ethernet switch (via RJ45 connectors)

Please refer to our [PoE Guide](#) for more details on Power over Ethernet related concepts.

### **Back Focus adjustments**

For proper calibration for optimal performance, please go to our website and see our guide on [how to adjust camera back focus](#).

## Product Specification

TCM-5311		
Device	Device Type	Box Camera
	Image Sensor	Sony Exview HAD Progressive Scan CCD
	Sensor Size	1/3" (4.8 x 3.6 mm)
	Horizontal Resolution	900 TVL
	Day / Night	Yes
	Minimum Illumination	Color: 0.15Lux at F1.2 (30 IRE, Max. AGC) B/W: 0.05 Lux at F1.2 (30 IRE, Max. AGC)
	Color to B/W switch	DSP based switch, configurable
	Mechanical IR Cut Filter	Yes
	IR Sensitivity Range	700 - 1100 nm
Lens	Electronic Shutter	1/60 - 1/10,000 sec (60Hz); 1/50 - 1/10,000 sec (50Hz) (manual mode) 2 - 1/100,000 sec (auto mode)
	Mount Type	C/CS mount (Interchangeable lens)
Video	Lens Option	Compatible lenses are available
	Compression	H.264, MPEG-4 SP, MJPEG
	Maximum Frame Rate vs. Resolution	15 fps at 1280 x 960 (SXGA) 30 fps at 1280 x 720 (HD 720p) 30 fps at 640 x 480 (VGA) 30 fps at 320 x 240 (QVGA) 30 fps at 160 x 112 (QQVGA)
	Multi-Streaming	Simultaneous dual streams based on two configurations
	Bit Rate	28 Kbps - 6 Mbps
	Bit Rate Mode	Constant, Variable
	S/N Ratio	More than 50 dB
	Image Enhancement	Backlight compensation; White balance: automatic, predefined, manual; Brightness; Automatic gain control; Auto exposure: automatic, predefined, manual; Flickerless
	Privacy masks	4 configurable regions
	Text Overlay	User defined text on video
Audio	Image Orientation	Image flip and mirror
	Compression	8kHz, Mono, PCM, 16 bit encoding
	Audio-In	3.5mm Phone Jack
Network	Audio-Out	3.5mm Phone Jack
	Protocol & Service	TCP, UDP, HTTP, HTTPS, DHCP, PPPoE, RTP, RTSP, IPv6, DNS, DDNS, NTP, ICMP, ARP, IGMP, SMTP, FTP, UPnP, SNMP, Bonjour
	Ethernet Port	1, Ethernet (10/100 Base-T), RJ-45 connector
Alarm	Security	IP address filtering; HTTPS encryption; Password protected user levels
	Alarm Trigger	Video motion detection (3 regions); External device through digital input
Interface	Alarm Response	Notify control center; Go to PTZ preset point or preset tour; Change camera settings; Command other devices; E-mail notification with snapshots; Upload video, snapshot to FTP server; Activate external device through digital output
	DC-Iris Connector	External connector for DC-iris lens
	Digital Input	1, TTL, terminal block
	Digital Output	1, TTL, terminal block
General	Local Storage	Micro SD Card Slot (Card not included)*
	Power Source / Consumption	PoE Class 3 (IEEE802.3af) / 7.68 W DC 12V / 6.72 W
	Weight	505 g (1.1 lb)
	Dimensions (W x H x D)	135.6 mm x 82.6 mm x 61.0 mm (5.34" x 3.25" x 2.40")
	Operating Temperature	-10 °C - 50 °C (14 °F - 122 °F)
Integration	Approvals	CE, FCC
	Unified Solution	Fully Compatible with ACTi Software
	ISV Integration	Software Development Kit (SDK) available
	Firmware Access Browser	Microsoft Internet Explorer 6.0 or newer

\* Available only for devices with enhancements

## 2. Accessing Camera

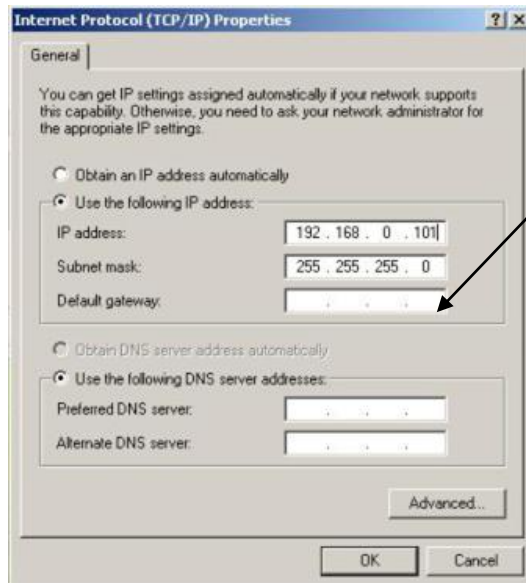
### If you have DHCP server / router in your network:

Many network server / routers are able to automatically provide IP addresses through DHCP. If you are using such a network, just plug in your computer and IP Box Cam into the network and your IP device will acquire network address by itself. Find and access the device with our IP Utility program. You may download it at:

***[http://www.acti.com/product/detail/Software/ACTi\\_Utility\\_Suite](http://www.acti.com/product/detail/Software/ACTi_Utility_Suite)***

### If you do **NOT** have DHCP server / router in your network:

1. Configure your PC to use the same subnet by changing your PC's IP address to the subnet with prefix 192.168.0.XXX. The last number should be anything from 1 to 254 except 100 and other occupied IP addresses. Subnet mask should be 255.255.255.0.
2. **The default IP used by this device is 192.168.0.100. Please make sure your PC is NOT using this address and that no two equipments use the same IP address in the network.**
3. Change your IP address by going to Control Panel -> Manage Network Connections -> Right click on the connection to change -> Option -> TCP/IP IPv4 Properties.



Please set the settings as below.

- 
- IP address: 192.168.0.xxx
- Subnet mask: 255.255.255.0

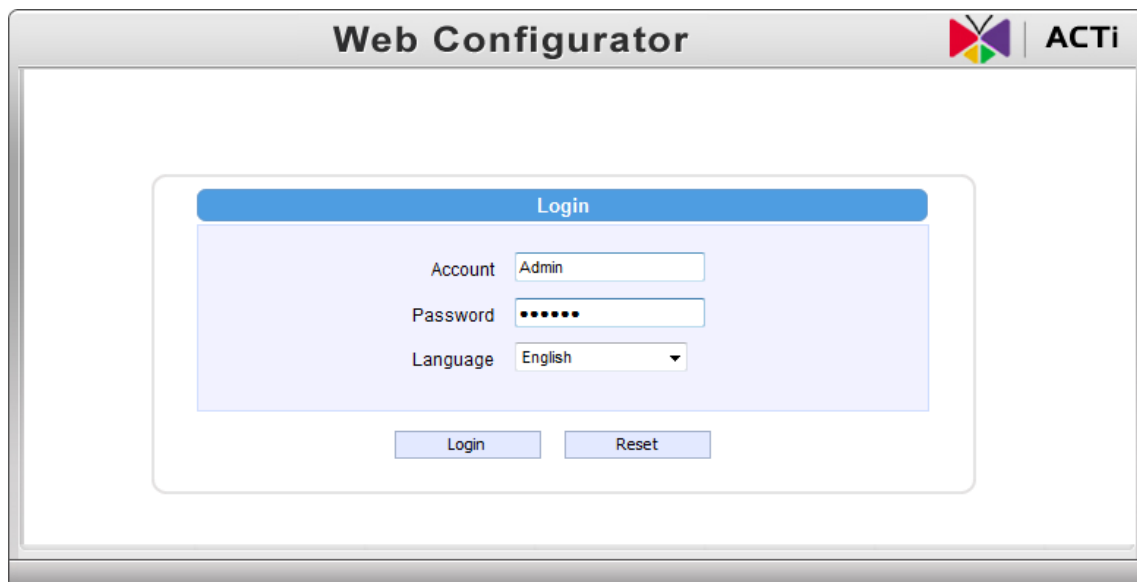
(NOTE: xxx should be a number from 1 to 254 except 100, which is used by the IP device. Please also make sure that no two equipments use the same IP address in the

4. Open Internet Explorer (Version 6.0 or above) , and type in the Default IP:

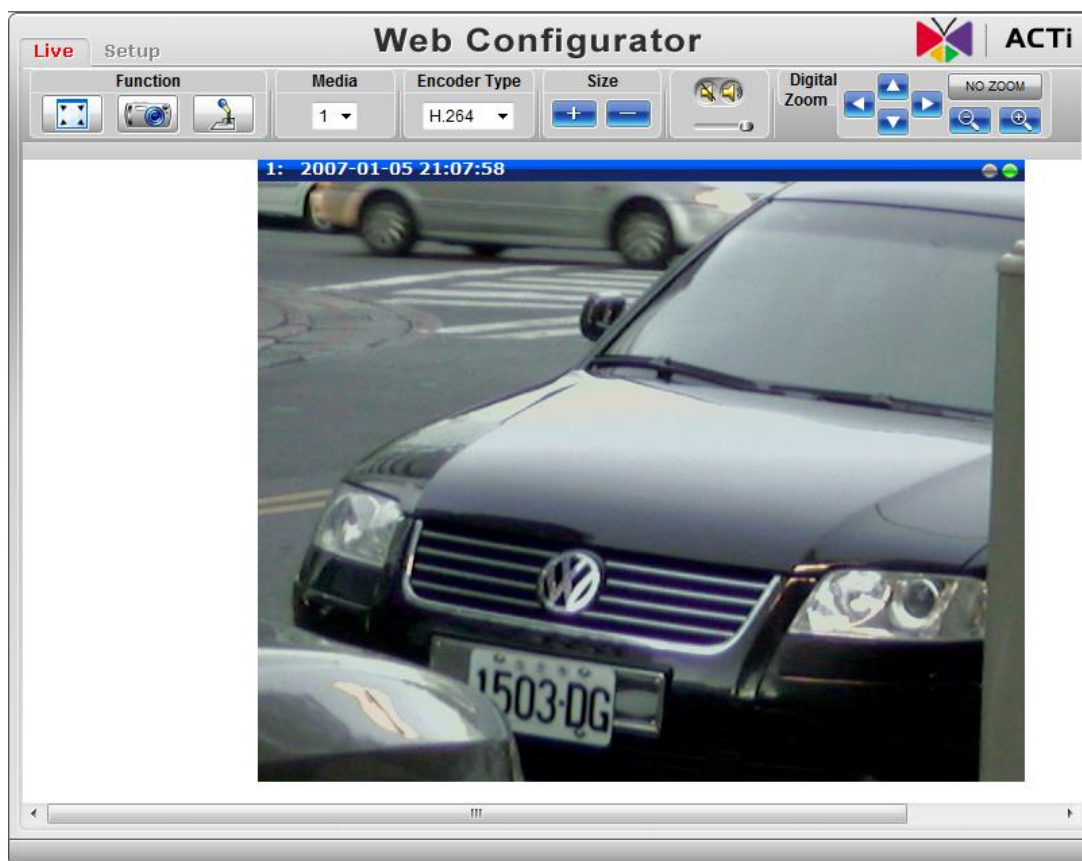
**192.168.0.100**

5. When you see the login window, please input default user and password:

**Default User: Admin Password: 123456**



6. After logging in, you will see the video from camera. To go to the main menu, click the "Setup" button on the top left.

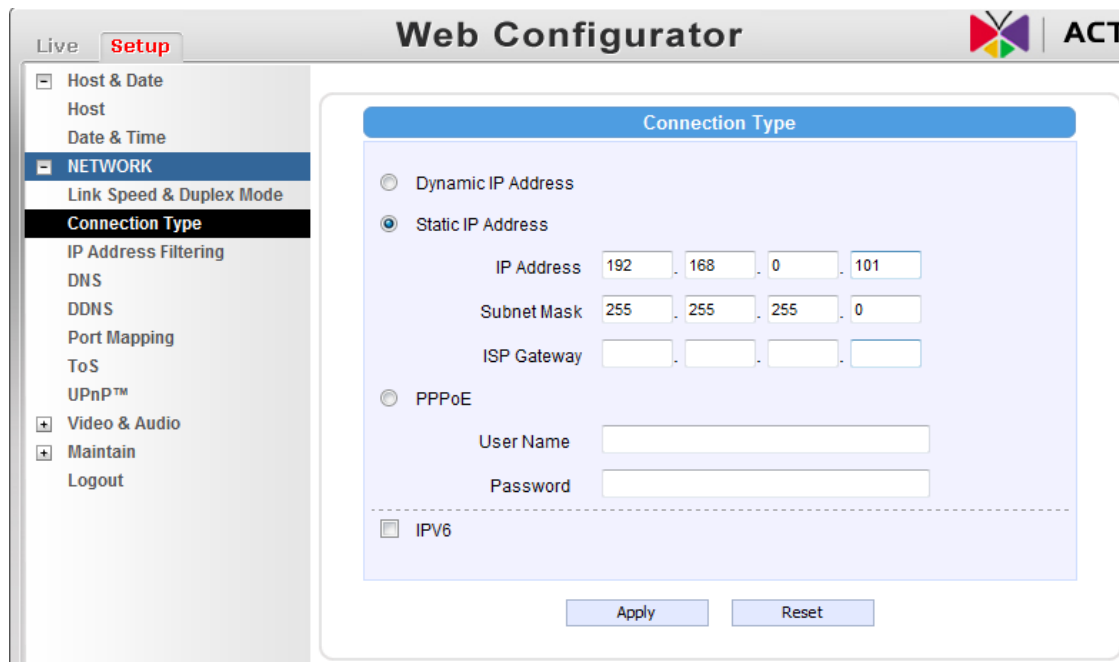


If you are using a single camera, this is enough to access the device.

If you are using multiple devices, you need to change the current device to another unused IP address, so that when the next device is connected to the network, no two devices use the same IP. Please perform the following steps.

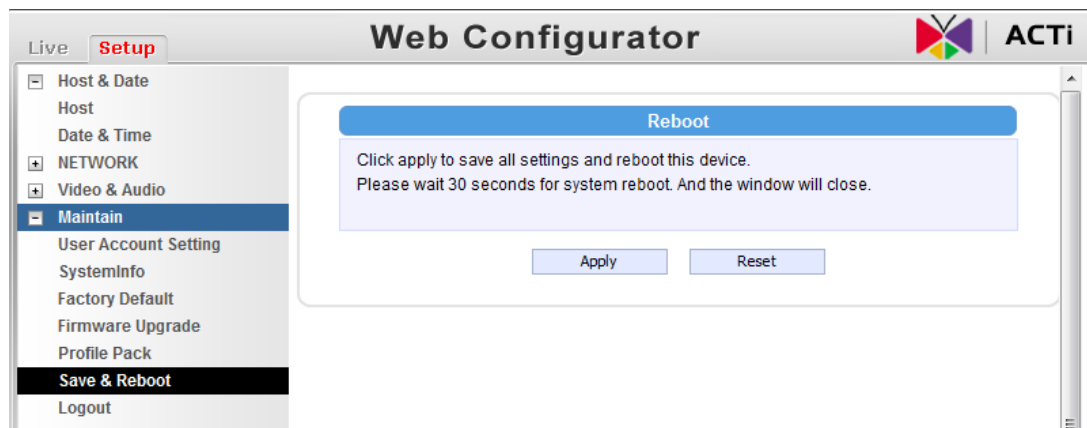
7. Go to Network -> Connection Type
8. Change the IP mode to Static.
9. Change the IP to 192.168.0.101 or any other unused IPs. Do NOT use the PC's IP address or 192.168.0.100.). If this is not the first device you add to the network, please also avoid other devices' IPs.





10. Click "Apply"

11. Please go to Maintain -> Save & Reboot, and click "Apply". Internet Explorer will close after a few seconds. This is normal.



12. Wait for 30 seconds, and open IE again to connect to the **new IP**. (In this example, 192.168.0.101). For the second device or more you add into the network, please type the correct IP.

13. Adjust the default Video setting by going to Video & Audio -> Media 1

